WHAT IS CLAIMED IS

1. A system for inspecting a component comprising:

a two dimensional inspection system locating a plurality of features on the component and generating feature coordinate data; and

a three dimensional inspection system coupled to the two dimensional inspection system, the three dimensional inspection system receiving the feature coordinate data and generating inspection control data.

2. The system of claim 1 further comprising a component inspection controller coupled to the three dimensional inspection system, the component inspection controller receiving the inspection control data and controlling the location of the component based upon the inspection control data.

3. The system of claim 1 further comprising:

a reference image system storing one or more reference images;

a test image system storing test image data; and

a comparator system coupled to the reference image system and the test image system, the comparator system generating difference data from the reference image data and the test image data.

4. The system of claim 3 wherein the reference image system comprises a die base reference image system storing image data of a die prior to installation of bumps.

5. The system of claim 3 wherein the reference image system a test die reference image system storing image data of a test die with installed bumps.

6. The system of claim 1 wherein the two dimensional inspection system further comprises a feature location tracking system storing the feature location data and providing the feature location data to the three dimensional inspection system after all features of the component are located.

7. The system of claim 1 wherein the three dimensional inspection system further comprises a laser placement system that determines the location of a laser inspection track on the component from the feature location data.

8. The system of claim 1 wherein the three dimensional inspection system further comprises a three dimensional image data analysis system that receives laser image data and determines three dimensional feature location data from the laser image data.

9. A method for inspecting a component comprising:

processing two dimensional image data of the component to determine location data for each of a plurality of features on the component;

determining control data for a three dimensional inspection of the component from the location data for each of the plurality of features; and

performing a three dimensional inspection of the component using the control data.

10. The method of claim 9 wherein processing the two dimensional image data of the component to determine the location data for each of the plurality of features on the component comprises:

comparing test image data to die base reference image data to generate difference data; and

analyzing the difference data to determine the location of each of the plurality of features.

11. The method of claim 9 wherein processing the two dimensional image data of the component to determine the location data for each of the plurality of features on the component comprises:

comparing test image data to test die reference image data to generate difference data; and

analyzing the difference data to determine the location of each of the plurality of features.

12. The method of claim 9 wherein determining the control data for the three dimensional inspection of the component from the location data for each of the plurality of features comprises:

determining placement sequence data for a laser inspection track such that the laser inspection track is placed on each of the plurality of features at least once; and

determining component movement control data from the placement sequence data.

13. The method of claim 9 wherein performing the three dimensional inspection of the component using the control data comprises:

obtaining image data from a laser inspection track on the component; and

analyzing the image data to determine the location of one or more features.

14. The method of claim 13 further comprising moving the component until the image data has been obtained for each of the features on the component.

15. The method of claim 13 further comprising generating error data if the location of any of the one or more features is outside of a predetermined location range.

16. A method for processing image data to locate one or more features comprising:

receiving first image data of a component prior to installation of one or more features;

receiving second image data of the component after the installation of the one or more features;

comparing the first image data and the second image data to generate difference data; and

determining the location of each of the one or more features from the difference data.

17. The method of claim 16 wherein receiving the first image data of the component prior to installation of the one or more features comprises receiving the first image data of a die prior to the installation of one or more contact bumps.

18. The method of claim 16 wherein receiving the first image data of the component prior to installation of the one or more features comprises receiving the first image data of a representative component prior to the installation of the one or more features.

19. The method of claim 16 further comprising determining the placement of a three-dimensional inspection component based upon the location of each of the one or more features.

20. The method of claim 19 wherein determining the placement of the three-dimensional inspection component comprises determining the location of a laser track.